

REMARKS

Claims 1-9, 13, 15 and 17-21 are presented for consideration, with Claims 1 and 2 being independent.

Editorial changes have been made to selected claims. In addition, Claims 17-21 have been added and are based on Claims 3-7, respectively.

Claims 1-4, 6-10 and 12-16 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Ikeda '521 in view of Akins '787. Claim 5 is rejected as allegedly being obvious over those citations and further in view of Iwai (JP '392). Lastly, Claim 11 stands rejected as allegedly being obvious over Ikeda, Akins and further in view of Enomoto '785. These rejections are respectfully traversed.

Claim 1 of Applicants' invention relates to a display apparatus comprised of a substrate on which a plurality of closed spaces are two-dimensionally disposed along a surface of the substrate, a plurality of particles contained in each of the closed spaces, and a reflection surface for reflecting light which enters each of the closed spaces. The particles are moved in each closed space, between a first position in which they are diffused to cover the reflection surface and a second position at which they are collected to expose the reflection surface, to change an intensity of reflected light so as to provide a bright display state and a dark display state, with at least a part of the reflection surface diffuse-reflecting incident light with a directivity when the particles are located at the second position at which the reflection surface is exposed. As claimed, a light intensity of the diffuse reflection with the directivity has such an angular distribution that 1) an amount of reflected light toward the second position at which the particles are collected is smaller than that thereof in the case where the reflection surface is an

isotropic diffuse reflection surface, and 2) an amount of reflected light toward positions other than the second position at which the particles are collected is larger than that of the reflected light toward the position at which the particles are collected.

Claim 2 relates to a display apparatus that includes a substrate, a plurality of particles and a reflection surface as set forth in Claim 1. In addition, a partition wall divides the closed spaces into each of the closed spaces in a direction along the surface of the substrate. As in Claim 1, the particles are moved in each closed space between a first position and a second position to change an intensity of reflected light to provide a bright display state and a dark display state, with at least a part of the reflection surface diffuse-reflecting incident light with a directivity when the particles are located at the second position at which the reflection surface is exposed. In Claim 2, the light intensity of the diffuse reflection with the directivity has such an angular distribution that 1) an amount of reflected light toward the partition wall is smaller than that thereof in the case where the reflection surface is an isotropic diffuse reflection surface, and 2) an amount of reflected light toward positions other than the partition wall is larger than that of reflected light toward the partition wall.

In accordance with Applicants' claimed invention, a high performance display apparatus can be provided.

The primary citation to Ikeda relates to an electrophoretic display device that includes display side and rear side substrates 1, 2, a cell wall 3, dispersing fluid 4 and charged particles 5. The display also includes a first electrode 6 provided on a surface of the rear side substrate and a second electrode 7.

The Office Action relies on Ikeda for its teaching of a substrate, a plurality particles, a reflection surface and, in the case of Claim 2, a partition wall. The Office Action acknowledges that Ikeda does not provide a light intensity with an angular distribution as set forth in Claims 1 and 2.

The secondary citation to Akins was cited to compensate for the deficiencies in Ikeda. Akins relates to a reflection type optical display device that includes a prismatic film 12, an optical cell 14 and a reflector 16 (see Figure 1).

It is respectfully submitted, however, that only through hindsight would one skilled in the art have combined Ikeda and Akins in the manner proposed in the Office Action. The electrophoretic display device in Ikeda arranges the first and second electrodes in a manner to provide advantages, such as viewing angle independence and thin displays, over conventional electrophoretic displays. Akins, on the other hand, makes use of a prismatic film in an attempt to minimize glare. It is respectfully submitted, however, that combining the light intensity attributes of Akins, which requires a prismatic film, with the electrophoretic display device of Ikeda, would not have been obvious to one skilled in the art, absent impermissible hindsight.

Accordingly, reconsideration and withdrawal of the rejection of Claims 1-4, 6-10 and 12-16 under 35 U.S.C. §103 is respectfully requested.

The Iwai patent relates to a liquid crystal display and is relied on for its teaching of dividing a reflection surface into a plurality of areas. Iwai fails, however, to compensate for the deficiencies in Ikeda and Akins as discussed above. Reconsideration and withdrawal of the rejection of Claim 5 under 35 U.S.C. §103 is therefore respectfully requested.

Enomoto relates to a reflective display and is relied on for its teaching of a partition wall with a color substantially identical to a color of the particles. Enomoto fails,

however, to compensate for the deficiencies in Ikeda and Akins as discussed above.

Accordingly, reconsideration and withdrawal of the rejection of Claim 11 under 35 U.S.C. § 103 is respectfully requested.

Thus, it is submitted that Applicants' invention as set forth in independent Claims 1 and 2 is patentable over the cited art. In addition, dependent Claims 3-9, 13, 15 and 17-21 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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FCIS_WS 2381809v1